

AVIATION

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Lieut. Al Williams, U.S.N., flying a VE7 plane through the airship hangar at Lakehurst

VOLUME
XVI

SPECIAL FEATURES

NUMBER
24

SHENANDOAH MAKES 1000 MILE FLIGHT
THE LAKEHURST NAVAL AIR DEMONSTRATION
THE FRENCH AND GERMAN AIRCRAFT INDUSTRIES
WELDED STEEL TUBING IN FUSELAGE CONSTRUCTION

GARDNER PUBLISHING CO., INC.
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PERFORMANCE

Dependability is Service

Welcome home to the PN-7 after its 15,000 miles cruise to South America and back. Four months of hard work with the Fleet on diversified and difficult duties. The Navy can well be proud of this trying test of its latest effort on flying boat development, and we are proud of the two big Wright T engines which for this 180 hour cruise never failed or required over-haul or replacement.

Both plane and engines were in excellent condition on their arrival at their base, the Navy Yard, Philadelphia, and ready for another 15,000 miles.

WRIGHT AERONAUTICAL CORPORATION
PATERSON, N. J. U. S. A.

WRIGHT AIRCRAFT AND ENGINES

Airship Base
North Island
San Diego, Calif.

PHOTO BY
Wright Aerona

AVIATION

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NO. 24

Rum Defense vs. Air Defense

WHEN the public learns that almost an ideal amount of money has been appropriated by Congress for the Coast Guard in connection with protecting the country against rum runners it will appreciate the Air Service for its country's protection against hostile air raids, the high performance condition of which will become evident.

The Coast Defense Act contains the following clause:

"To additional motor boats and their equipment for the use of the Coast Guard in enforcing the laws of the United States and in performing the duties with which the Coast Guard is charged, to be constructed or purchased on the direction of the Secretary of the Treasury, and for repairs or alterations to or for equipping and placing in commission vessels or boats transferred from the Navy Department to the Treasury Department for the use of the Coast Guard, \$12,000,000, to remain available until June 30, 1928."

We cannot lay the blame for this anomalous situation on Congress. The anti-rum appropriation was asked for by the Secretary of the Treasury. If the Secretary of War asks for only twelve million dollars for the Air Service, Congress can not be expected to grant more than that amount. Further comment on the comparative importance of these two appropriations really comes superfluous.

It is not surprising, however, to point out in the current debate that it appears to be overlooking a most interesting field of activity and disregarding the evident necessities of seafarers for the prompt detection and apprehension of rum runners. It is an ancient wisdom that seafarers run risks; they are quite naturally using machines for detecting purposes, that is, to detect in time the moves of Coast Guard vessels, and so escape capture. While a few planes appear to have also been used occasionally by Internal Revenue agents in the revenue war, from such information as is available it appears that most of these planes were built at about the time the Great Flood of January occurred. It would therefore seem that with the new appropriation which the Coast Guard has now available, our manufacturers might find it useful to manufacture some really up-to-date aircraft whereby the status of blockadees could be accomplished with more dispatch and certainty than is now practised.

The Round the World Flights

THE round the world flights are getting so much discussed publicly in the daily papers that we do not before our readers expect us to review here on detail week after week the progress of these enterprises. The space available in the editorial columns of *AVIATION* is, incidentally, as limited by business conditions that we cannot in any one issue give more than a brief weekly summary of these flights.

From a certain type of mind we get some peculiar reactions to the world flights. A common query is, "What is the practical good of them?"

To this more than one answer can be given. In the first place, certain definite knowledge has already been gained regarding the practicability of some portions of the round the world flying route of the Americans and British expeditions.

Americans express surprise to see that it is very difficult, if not altogether impossible, to fly in the Aleutian Islands during the spring season. Mackay's experience, reinforced by Peary's, on the other hand, seems to prove quite conclusively that inter-coastal wings do not stand up in the terrible heat of Alaska. If the American world fliers confirm this experience, it will indicate the necessity of having naval covered wings for long-distance flights.

But these flights are not the only valuable lesson which the world flights are bringing forth. There is, for instance, the question of national prestige, with the possibility of sale of American aircraft to countries which have no manufacturers of their own. The French understood this angle so well that after they had given up the idea of a world flight for financial reasons, they organized the epicurean club of Pilgrim Davis to the Far East.

There is also the fact that our own world flight is holding the interest of the American public to an extent which is no mere accomplishment for aviation. All these factors are also sufficient to justify the enterprise from a practical viewpoint, but there is furthermore a philosophical justification in the accomplishment of something that has never been done before. This may not appeal to the practical mind, but it is more the less of considerable importance as a "�ood of example."

There seems to be a general impression among the public that our world flight is a raw affair against the British General Patriarch has officially denied this implication, stating that our world flight was undertaken to show the possibility of such a flight from the commercial viewpoint and to chart new flying routes. The plane which will have circled the globe without any essential replacement of parts will furthermore furnish proof not only of normal strength and reliability, but also of greatest skill and judgment on the part of its pilot.

Interesting Comparisons

THE comparative study of the French and German aircraft industries with reference to their governmental aid to aeronautical development and production work which appears in this issue, will be found highly instructive. It will be seen that in those countries not only is everything done to foster the industry as a self-supporting unit, but also that official interference is reduced to a minimum.

Welded Steel Tubing in Fuselage Construction

**Abstract of a Lecture Given by A. H. G. Fokker before the British
Institution of Aeronautical Engineers**

The use of fuselages built up of welded steel tubing in place of the ordinary star-shaped wooden lattice girder construction made considerable headway in the country during the past year. This will be readily appreciated, considering that such well known machines as the Boeing Naval Training Plane, the Douglas Pursuit Planes and the C.R.T. "Three-Purpose" Trainer, the Douglas Transport, the World War Center, and the Half-Welded Petrel and T-85 Army Training Planes all have welded steel tube fuselages.

This new development in American airplane construction has largely been due to the successful dissemination in this

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One of the newest Fokker planes, a comestible biplane and torpedo dropper built for the Netherlands air force. The engine is a 450 h.p. Napier Lion, and the small space it occupies in the fuselage is noteworthy. The plane has a high speed of 175 m.p.h. and carries a load of 5660 lbs. The Argentine and Paraguayan world crusaders used a similar type.

country at various Fokker airfields, all of which exclusively have 400-h.p. Hispano-Suiza engines. In view of the fact considerably interest attaches to a lecture given some time ago before the (British) Institution of Aeronautical Engineers by Anthony Fokker, the Dutch aircraft constructor, on that type of fast-lag monoplane.

The Early Georgians

Mr. Fokker has his first all-steel fuselage in 1913, and it is worthy of note that in principle nothing has ever been changed in that type of construction by the British aircraft manufacturers. fundamentally, the Fokker-type fuselage is a box frame, built up of longitudinal steel plates, transverse and longitudinal steel plate girders, and which are cross-braced by wire-braced tail-pieces. American practice departs in some measure from the Fokker type of fuselage in that the wire-bracing is dispensed with round wooden tie-rods, the ends of which are threaded and fit directly into a wooden thread block, thereby the use of turnbuckles and wire bracing is eliminated.

Referring now to Mr. Folker's paper, the letterwriter stated that in the early stages of the evolution of this form of fastener construction several difficulties presented themselves, among which was that of attaching the bearing wires which were to be supported by the bearing plates. At first a steel plate was used as the bearing plate, but it was soon withdrawn, thus allowing the bearing wire of the turntable to be attached by a simple bolt. Then another system was tried, which consisted in welding two steel strips onto the outside of

the tubes so as to accommodate a male and female tube between them. Finally a small quadrant or sector of thick-walled steel tube was welded onto the angle, so that the heating wire may be passed through it. Thus, the inventor stated, was the form adopted as standard an all British machines at present. He

diagonal trussing being in the form of a double way down through the quadrant at the corner and tightened in on turnbuckle only.

At first very high tensile strength was used, it was found difficult to handle the wire, which was very brittle in the instance in which the loops at the ends of the wires broke. One or two wires having a factor of 20 broke during ordinary flight, showing that the wire had broken during the storage of the structure. New flexible wire, with a lower ultimate tensile strength was used, which was found satisfactory. Mr. Peat

June 2, 1982

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The author quoted from the MacCann Field report on tests with Fokker D.VII, which stated that "Used welded aluminum alloy in sheet specification 16-03-01, containing 0.35 per cent carbon, 0.3 to 0.4 per cent manganese, 0.05 per cent phosphorus, and about 0.2 per cent sulphur." It would be interesting to determine whether or not the aircraft mentioned in the report was English and whether the aircraft had been welded.

and that the stress factor of the specimens was considerable for the stated temperatures. The difficulty of welding, the behaviorists had been told that during the War of 1918-19 more per cent of the personnel employed were women, and that they did the work. It was stated that a woman's strength was equal to that of a man at which the work was done. Quick welding was being done, while slow welding was being done because it implied concern on irregular work. Over-spraying was indicated as shown immediately in the appearance of the welds. The first portion of a fastening was very easy to weld, while the second portion in the forward part, where the structures associated correspondingly like part of the work was the most difficult work.

The eccentricity was satisfied by the testator as follows: On the outer wall, two sets of angles of the same dimensions were drawn out, the outer set not being in alignment with the inner, and are held in position between angle plates. They are then press-welded together and the resulting

For more information about the study, please contact Dr. Michael J. Hwang at (319) 356-4000 or via email at mhwang@uiowa.edu.

The French and German Aircraft Industries

With Special Reference to their Dealings with the Governments

The Ministry of Supply has been instrumental in ensuring that the relationship of air power to national defence is a sound one. The position in all countries is, however, followed different methods. Consideration of the Supermarine Company has recently given the relationship of the British Government with the manufacturers.

To cover a similar point of view regarding the French and German situations a search has been made of various articles in contemporary papers and information secured from the official sources of France and Germany.

The French System

In France an Association des Entreprises de l'Aéronautique, founded in 1946, is a representative body of the industry. It has a research section, the Centre d'Etudes et de Recherches Aéronautiques, which is engaged in the early stages of the development of new aircraft. The association also has a technical committee which organizes meetings and publishes a monthly magazine.

spiration over a period of six years. Due to this fact and also to the recognition the Government had given to us since this period, there had been established shall recognition shall open these consequences and mutual respect. It may consist of a general terms that moral opinions in France, existing in the public mind, and the mode of applying them, shall be directed by the organized opinion of the French. The French attitude very largely their success in the negotiations.

The voice of the Chamber Syndicate, speaking for the industry, has been sought and followed up in the disposal of the war surplus after the war passed and on the basis of Government's advice and waiver regarding manufacture of foreign types who has been followed, not only most closely of the industry but by the Government.

No Government Competition

The Government does not compete with the industry. To the contrary, the Government's sole conception of nationalism is predicated upon the necessity for maintaining the industry as the basis of the whole scheme of national and commercial flying expansion. It is an absolute

Referring to the problem of transferring high local stresses at right angles or nearly so to the axis of tubes, such as occur at the point of attachment of the landing gear struts, Mr. Fletcher indicated the methods of doing that. In one case the ball-and-socket joint has a large slot which passes through the longeron-tube joint and diagonally through the main gear strut, thus enabling it to turn. The second case of interest, involving a corner spring, consists in welding a stamping, or a girt to a steel landing gear strut.

The main point of width and take construction was dictated by the location as depending upon the grade of transmission from one pipe to the other or in a fitting and upon the avoidance of all sharp transitions.

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In France, the Government point of view with reference to national security and economic development is presented on the existence of strong aviation industries, which is a definite private advantage to industry. The Government has been asked for the development of civil aviation and used large subsidies for their maintenance. As an aid to civil aviation, the Government has also placed important orders for the development of various types of commercial aerial transports; has laid out airports, and established permanent liaison groups with foreign countries and organizations. It is evident that the Government will at any time in the future expect that the industry will do its duty in co-operation with the industry in design, engineering, construction to an economical basis.

The German Air Industry

In Germany, owing to the shadow of a national air force and armament, the aircraft industry has suffered greatly by the entry of Versailles and by the Council of Ambassadors' "Stern-Peace"; the aeroplane problem is, of course, very different. But, because deprived of a military aviation, Germany has turned all her energy toward fostering civil air transport, and this is being done according to a very clear and well thought-out plan.

At present, there are three main aircraft manufacturers in Germany, one representing the manufacturers of heavier-than-air craft and the other the airship constructors. After the war and during the period of demobilization and liquidation of our establishments, these two trade associations were consolidated under the name of Verein Deutscher Luftfahrtunternehmen (V.D.L.).

After the consolidation, the members took the above organization in a general position that came up for consideration, and in so far as the restrictions placed upon aeroplane activities in Germany by the Allies, the problems of legislation growing out of demobilization of the factories and liquidation of allied contracts, and questions growing out of the conditions of peace, the development of suitable laws designed to encourage civil and military aircraft manufacture, including questions of draft acts as licensing or mechanics, pilots, establishment of air routes, etc. This latter phase included the licensing of constructors of aircraft and on the theory that aircraft for the government or civil and military third parties on the ground to that of aeroplanes. Therefore, the conductors of these phases must be placed in the hands of trustees of national responsibility and responsibility.

Potent Rights

In addition to the above problems the organized industry also gave consideration to the infringement of patent rights during the war period, and as a result agreed among themselves that they would endeavor to maintain the normal methods of the organization until peace was signed. In the cases that were not disposed of by mutual agreement, a number were submitted to arbitration, either to the law courts.

The Government and the organized industry have fine examples of continued cooperation with the Government in peaceful, non-political, and administrative relations of the same. Whether the Government wishes information, technical or otherwise, relative to matters concerning, either for the purpose of engineering or development of designs or matters of legislation, it makes no request to the industry through the regular associations and the latter nominate or suggest men of their number, men of known responsibility and experience, to act on behalf of the industry to act for the industry in making representations to the Government on each occasion as it arises.

Another important function of the organized industry in Germany was to act as arbitrator for the Government among the various parts of the industry in fixing and determining the value of aircraft and equipment for the cancellation of war contracts and indemnity due. The German Government would not participate in or examine flying meets or exhibitions that were not sanctioned by the industry.

Engineering Establishments

The only governmental aviation publication issued in Germany is the weekly *Technische Zeitschrift für Luftfahrt* (Technical Notes in Aviation) which does not contain any advertisements and which

is similar to the Notes in Aviation issued by the U. S. Navy. The German government, during the war, maintained a government establishment with a laboratory for research and development and for experimentation as far as the design of ordnance or other military equipment to armament and armament work. Since the war, however, these establishments have gone up. From the very apparent appearance of the Government of the necessity of fortifying and building a strong private aircraft industry it is regarded as very important that the Government will at any time in the future expect that the industry in design, engineering, construction

It will be seen from the above statements as well as from those made by Commander Beck that neither in France, England nor Germany is there a government maintained aircraft production authority, excepting by allowing certain military contractors to continue construction, as exemplified by France to the general rule as the case of Savoia where the international publication of one hundred and fifty types is obviously under official control.

Running Speeds of British Engines

The approval of engines for British civil aircraft is based on the interoperability principle. In a representative series of type tests, and the Certificate of Acceptance of an aircraft is not issued until the engine has been tested and the results of the conditions of power and speed upon which the type approval was granted. As a result of such type test, "maximum" and "normal" engine speeds are laid down. The maximum of engine, or in excess of, the maximum permissible speed for more than a few minutes is a dangerous emergency condition, as it is impossible to judge by the only determination of the engine and increases its liability to break down.

Up to this connoisseur the British Air Ministry has issued the following table, giving the normal and maximum permissible speeds of all British-built aircraft engines —

Spec. of Engine	Per. Min.	Max. Min.
Bull 120 hp.	2,750	3,000
Bull 150 hp.	3,000	3,250
Le Rhône 90 hp.	2,750	3,000
Le Rhône 120 hp.	3,000	3,250
Le Rhône 150 hp.	3,000	3,250
Le Rhône 180 hp.	3,000	3,250
Curtiss 25 hp.	2,750	3,000
Curtiss 30 hp.	2,750	3,000
Mercury 75 hp.	2,750	3,000
Mercury 100 hp.	3,000	3,250
Mercury 125 hp.	3,000	3,250
Mercury 150 hp.	3,000	3,250
Mercury 180 hp.	3,000	3,250
Mercury 225 hp.	3,000	3,250
Mercury 250 hp.	3,000	3,250
Mercury 300 hp.	3,000	3,250
Mercury 350 hp.	3,000	3,250
Mercury 400 hp.	3,000	3,250
Mercury 450 hp.	3,000	3,250
Mercury 500 hp.	3,000	3,250
Mercury 600 hp.	3,000	3,250
Mercury 700 hp.	3,000	3,250
Mercury 800 hp.	3,000	3,250
Mercury 900 hp.	3,000	3,250
Mercury 1000 hp.	3,000	3,250
Mercury 1200 hp.	3,000	3,250
Mercury 1500 hp.	3,000	3,250
Mercury 1800 hp.	3,000	3,250
Mercury 2200 hp.	3,000	3,250
Mercury 2500 hp.	3,000	3,250
Mercury 3000 hp.	3,000	3,250
Mercury 3500 hp.	3,000	3,250
Mercury 4000 hp.	3,000	3,250
Mercury 4500 hp.	3,000	3,250
Mercury 5000 hp.	3,000	3,250
Mercury 6000 hp.	3,000	3,250
Mercury 7000 hp.	3,000	3,250
Mercury 8000 hp.	3,000	3,250
Mercury 9000 hp.	3,000	3,250
Mercury 10000 hp.	3,000	3,250
Mercury 12000 hp.	3,000	3,250
Mercury 15000 hp.	3,000	3,250
Mercury 18000 hp.	3,000	3,250
Mercury 22000 hp.	3,000	3,250
Mercury 25000 hp.	3,000	3,250
Mercury 30000 hp.	3,000	3,250
Mercury 35000 hp.	3,000	3,250
Mercury 40000 hp.	3,000	3,250
Mercury 45000 hp.	3,000	3,250
Mercury 50000 hp.	3,000	3,250
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Mercury 80000 hp.	3,000	3,250
Mercury 90000 hp.	3,000	3,250
Mercury 100000 hp.	3,000	3,250
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Mercury 300000 hp.	3,000	3,250
Mercury 350000 hp.	3,000	3,250
Mercury 400000 hp.	3,000	3,250
Mercury 450000 hp.	3,000	3,250
Mercury 500000 hp.	3,000	3,250
Mercury 600000 hp.	3,000	3,250
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Mercury 1000000 hp.	3,000	3,250
Mercury 1200000 hp.	3,000	3,250
Mercury 1500000 hp.	3,000	3,250
Mercury 1800000 hp.	3,000	3,250
Mercury 2200000 hp.	3,000	3,250
Mercury 2500000 hp.	3,000	3,250
Mercury 3000000 hp.	3,000	3,250
Mercury 3500000 hp.	3,000	3,250
Mercury 4000000 hp.	3,000	3,250
Mercury 4500000 hp.	3,000	3,250
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Mercury 80000000000000 hp.	3,000	3,250
Mercury 90000000000000 hp.	3,000	3,250
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Mercury 450000000000000 hp.	3,000	3,250
Mercury 500000000000000 hp.	3,000	3,250
Mercury 600000000000000 hp.	3,000	3,250
Mercury 700000000000000 hp.	3,000	3,250
Mercury 800000000000000 hp.	3,000	3,250
Mercury 900000000000000 hp.	3,000	3,250
Mercury 1000000000000000 hp.	3,000	3,250
Mercury 1200000000000000 hp.	3,000	3,250
Mercury 1500000000000000 hp.	3,000	3,250
Mercury 1800000000000000 hp.	3,000	3,250
Mercury 2200000000000000 hp.	3,000	3,250
Mercury 2500000000000000 hp.	3,000	3,250
Mercury 3000000000000000 hp.	3,000	3,250
Mercury 3500000000000000 hp.	3,000	3,250
Mercury 4000000000000000 hp.	3,000	3,250
Mercury 4500000000000000 hp.	3,000	3,250
Mercury 5000000000000000 hp.	3,000	3,250
Mercury 6000000000000000 hp.	3,000	3,250
Mercury 7000000000000000 hp.	3,000	3,250
Mercury 8000000000000000 hp.	3,000	3,250
Mercury 9000000000000000 hp.	3,000	3,250
Mercury 10000000000000000 hp.	3,000	3,250
Mercury 12000000000000000 hp.	3,000	3,250
Mercury 15000000000000000 hp.	3,000	3,250
Mercury 18000000000000000 hp.	3,000	3,250
Mercury 22000000000000000 hp.	3,000	3,250
Mercury 25000000000000000 hp.	3,000	3,250
Mercury 30000000000000000 hp.	3,000	3,250
Mercury 35000000000000000 hp.	3,000	3,250
Mercury 40000000000000000 hp.	3,000	3,250
Mercury 45000000000000000 hp.	3,000	3,250
Mercury 50000000000000000 hp.	3,000	3,250
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Mercury 80000000000000000 hp.	3,000	3,250
Mercury 90000000000000000 hp.	3,000	3,250
Mercury 100000000000000000 hp.	3,000	3,250
Mercury 120000000000000000 hp.	3,000	3,250
Mercury 150000000000000000 hp.	3,000	3,250
Mercury 180000000000000000 hp.	3,000	3,250
Mercury 220000000000000000 hp.	3,000	3,250
Mercury 250000000000000000 hp.	3,000	3,250
Mercury 300000000000000000 hp.	3,000	3,250

UNITED STATES AIR FORCES

U.S. ARMY AIR SERVICE

Air Units having Foreign Decorations

The following is a complete list of the Air Service and Army Aircraft Service units of the United States Army to which decorations, including the Distinguished Unit Citation, have been awarded by foreign governments, together with the citations as given by the records of the War Department. Members or former members of these organizations are authorized to wear the decorations to which these awards entitle them:

AIR SERVICE UNITS

1st Air Service Group

French Air Service, under Order No. 12,016 TD, dated March 8, 1918; General Headquarters, French Armies of the Rhine, with the following citation:

"The first squadron of the American Army called to engage long-distance reconnaissance, it immediately reached, with admirable courage, positions in the hands of the Germans."

Thanks to the tenacity and untiring devotion of its members, the Squadron maintained its position, despite repeated attacks, and covered 100,000 km. of enemy territory, taking more than 2,200 photographs and destroying at 95% combat damage, which their enemy planes were destroyed.

80th Aero. Auto. Det.

French Air Service, under Order No. 12,016 TD, dated March 8, 1918; General Headquarters, French Armies of the Rhine, with the following citation:

"The second squadron of the American Army, which was engaged in pursuit-squadron service at the front, it was able to maintain its position throughout the day. It was a remarkable achievement, which ensured to 200 combat and second 95% victories (200 machines and 11 balloons)."

French Air Service, under Order No. 12,016 TD, dated March 8, 1918, with the following citation: "A squadron composed of American pilots who came to the aid of our Allies, the British, right from the very beginning of the war. Captain Thorneycroft, it fought valiantly and unceasingly against our enemies. Far from being disengaged, it held constant and losses, these valiantly throughout its entire existence and became the best of the French squadrons which, during its 100 days, was to fly 1,000 flights." 10th "Squadron," French Air Service (Order No. 1).

Additional units awarded under Order No. 12,016 TD, dated Oct. 22, 1918, General Headquarters, French Armies of the North and Southwest, with the following citation:

"A squadron unit, which, under the command of Major Thorneycroft, during the operations in Flanders, worthy of its glorious past. Not allowing the usual methods of air warfare to suffice, it has adopted a new method, according to the plan of our allies, a most complete series of manoeuvres—air attack and low altitude, and the destruction of a great number of German planes and captive balloons—for behind the enemy's lines as well as over those of our own troops."

ANTI-AIRCRAFT SERVICE UNITS

Heavy Artillery, Heavy Artillery, Artillery Service, Anti-Aircraft Artillery

French Air Service, under Order No. 12,016 TD, dated Oct. 22, 1918, General Headquarters, French Armies of the Rhine, with the following citation:

"Successfully, under the command of Capt. B. E. M. Godrich, First Lieutenant, Forrest W. McMillen, and Second Lieutenant Ab-

beed L. Teller, this unit occupied, for several months, a position that was frequently fired upon by the enemy artillery. It continuously endured numerous heavy- caliber bombardments and never ceased to fulfill its mission."

3rd Anti-Aircraft Machine Gun Battalion

French Air Service, under Order No. 12,016 TD, dated March 8, 1918; General Headquarters, French Armies of the Rhine, with the following citation:

"Under the active and brilliant leadership of its commanding Major Dunham, it distinguished itself by the results which it obtained on the Yonne and the Marne, the terrain which it displayed, and its high morale."

Members of the 6th Composite Group

The 6th Pursuit and Pseudo Squadrons, Headquarters of the 6th Composite Group, participated in the major portion of the Passaic Canal campaign, but has not been cited after a period lasting from April 1 to April 16, which involved a hard defense against an enemy holding force.

The 6th Composite Group, Air Service, played a considerable part in the solving of the problem and the testing of the methods of aerial warfare, and the 6th Pursuit and Pseudo Squadrons, which were primarily devoted to a test of reconnaissance. These engineers, reinforced telephone, radio, timer, and the receiving of information from signals to surprise through the medium of plane and transmitted from the plane to the command post by means of radio and dropped messages.

It will noted that the Air Service squadrons are called upon to cooperate with Infantry, Cavalry, Artillery, and Mortars, and never made feasible in in the interest of the command post, the plan of defense of the Coast Zone, the lessons taught and the ultimate solution of problems which since are seen indeed at vital importance.

The second phase of the problem resulted in an unusually successful employment of aircraft for reconnaissance. During the period from January 1 to April 1, when the entire of the American forces patrolled the coast, there was no lack of the Air Service located and established contact with the enemy boats in the early morning and maintained constant vigilance throughout the day, strafing the personnel and bombing the boats reported.

For the purpose of conducting activity which would be an auxiliary to the main military operations, starting on March 1, 1918, the Commandant of the 6th Composite Group, Major Harry M. Smith, located the Portus Manu and Phan Rong bases and adjacent areas, and with protective屏风 (EDH), identified the defending forces and driven off by a digital of three MRAs and three RSDs.

The entire exercise was a most instructive one for the Air Service personnel engaged in the maneuver. While the graphics was one person, the entire maneuver, it is only to say that the entire party was successful, so that the entire crew can learn the theories of ground troop movements which are no importance if real assistance is to be rendered from the air.

The high commendation was from Major Howard Lester upon the remarkable and perfect known between land and sea should be received in the spirit in which it has been given that the division of the Passaic Canal, engineers of the 6th Composite Group, made possible within 10 days, a body of water, 100 feet wide, across the canal, thus enabling the canal to cross over every form of terrain. This confidence, already established, must not be found in place when that 400 acres.

Lient. Richards Receives Degree

Lient. W. E. Richards, A.S., who is pursuing a course of instruction at the Massachusetts Institute of Technology, Cambridge, Mass., has been recommended for the degree of Master of Science at a recent meeting of the Faculty of his affiliation.

June 16, 1924

AVIATION

Naval Air Ordinance

Lt. Comdr. Walley Caperton, det. Avn. Sqdn. Scout Flt. in aerofoil instruction, Naval War College, Newport, R. I., Alfred H. Taylor, det. U.S. Scouting, to U.S. Air Service, Antwerp.

Ensigns: Chapman, W. Toomey, det. U.S. Scouting, to U.S. Air Service.

Ensigns: Charles C. Amersonson (MC), det. Nav. Air Service, D. C., to Nav. Scouting, Washington.

Ensign Harry F. Remond (MC), det. Nav. Med. School, Washington, to Nav. Air Service, D. C.

Ensign Louis Blane (MC) det. Scouting, Nav. Air Service, D. C., Boston Harbor, Calif., to U.S. Air Service.

Ensign Alfred Ward, det. U.S. Scouting, to Nav. Air Service.

St. George Lakes, 13, inclosing flying log.

Lieut. John H. Wood (MC), det. Nav. Air Service, Flying Log, to U.S. Scouting.

Ensign Robert Evans, det. Scouting, to U.S. Air Service, Great Lakes, 18, to U.S. Scouting.

Lieut. (2d) Edward T. Strand (MC), det. Avn. Scouting, Berlin, Fla., to Nav. Air Service, Lakeland, Fla.

Ensign Walter J. Child, det. Avn. Scouting, Strand Fl., to Nav. Air Service, Lakeland, Fla., involving flying log.

Ensign William G. Williams, det. Avn. Scouting, Lakeland, Fla., to U.S. Scouting.

Comdr. Warren G. Child, capt. Mar. 8, 1924, modified, det. Gen. Inspector, Nav. Air Service, East Bay, Gardena City, L. J., July 1, removed of duty June 15, 1924.

Ensign Harry H. Lester, det. Avn. Scouting, to Nav. Air Service, Lakeland, Fla., involving flying log.

Ensign Frederick W. Nealon, det. Avn. Air Service, Dept. of the Navy, Flying Log.

Ensign Frederick W. Nealon, det. Avn. Air Service, Dept. of the Navy, Flying Log.

Ensign (2d) Charles J. Conner, Jr., det. Avn. Scouting, Berlin, Fla., to Nav. Air Service, Lakeland, Fla.

Ensign (2d) William Johnson, det. Torp. & Boat Plane Sqdn. 2, Avn. Sqdn. Battle Fl., to Nav. Air Service, Pearl Harbor, T. H., Flying.

Ensign Lester T. Hand, det. Avn. Scouting, Scouting Fl., to Nav. Air Service, Anacostia, D. C., Flying.

Ensign Lester T. Hand, det. Avn. Scouting, Scouting Fl., to Nav. Air Service, Anacostia, D. C., Flying.

Ensign Robert C. Miller, det. U.S. Scouting, to Nav. Air Service.

Note: Ensign Lester T. Hand, Captain Edward Porter died May 17, 1924, at the Nav. Air Service Pensacola, Fla.

CALENDAR OF AERONAUTICAL EVENTS

- March 23. Start of the British World Flight, Southampton, England.
- April 6. Start of World Flight of the U. S. Army Air Service, Seattle.
- June 15. Gordon Bennett International Balloon Race, Brussels, Belgium.
- June 21. Annual F.A.I. Conference, Paris, France.
- June 22. Comte de Beaumont International Cup Race for high speed airplanes, Istres, France.
- July 5-6. Zurich International Airplane Efficiency Race, Zurich, France.
- August. "Tour de France des Avionistes," International Round-France race for light airplanes.
- Oct. 2-6. International Air Races, and Pulitzer Trophy Race, Dayton, Ohio.
- Dec. 24-25. Schaefer Cup Race, Baltimore.
- Dec. 17. Twenty-first anniversary of the first successful airplane flight.

¹These organizations are composed of Servants of America who had served the French Air Service prior to the entry of the United States in the War and who were transferred from the French wing to the United States.

Marine Plane Rescues Marooned Campers

A plane from the Marine Flying Field at Quantico, Va., descended into the flooded valley of an tributary of the flooded James River on May 14. The Indians had been marooned for three days, and repeated efforts to reach them by boat on the shore had been unsuccessful, due to the strength of the current of the flooded river and the presence at a large number of Indians on the river. The condition of the river indicated that for a time the water had reached to the normal level, thus preventing the passage of a boat, so the three marooned campers would be dead.

A telegraph association was made to Quantico through a bi-annual newspaper on May 14, and a plane piloted by Lieutenant H. C. Heidrich, U.S.M.C., was at once sent to Rutherford, located on board hills of sand and dropped them on the island within a few feet of the campers.

The Flying Marines in Haiti

The transportation by air of supplies, supplies, animals and food to various parts of the island of Haiti and nearby

parts in the Caribbean is one phase of the work that has been done by the Marine Corps aviation station at Port au Prince, Haiti.

A compilation of the activities of that station for the one month period from April 1 to May 1, inclusive, shows that the first flight, which started on April 1, was made by the Marine Corps aviator, Captain E. H. Hart, who flew a Ford Model T, and the official trip by plane was made by the Marine organization in Haiti. This plan included the transportation of American officials and representatives of the Haitian government to the chief red ports and cities in the Republic of Haiti, and served to speed up the conduct of business in the island republic. Two hundred and twenty passengers, soldiers, sailors, wives, children, were transported during the period mentioned, and all were placed in planes for delivery needed at destination without loss.

Lieutenant Gorton Injured in Crash

Lieutenant A. W. Gorton, U.S.N., was gravely injured on May 26 when his plane crashed on taking off from Hillis Air Aviation Field, Providence, R. I. The ship was completely demolished.

AVIATION

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SCHOOL OF AVIATION

AVIATION

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ST. LOUIS FLYING FIELD
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Flight Training
New York Air Terminal
Bethesda Heights, N. Y.

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Flight Training
New York Air Terminal
Bethesda Heights, N. Y.

AVIATION

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FLYING SCHOOL
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Chamberlain Metropolitan Airlines Co., Inc.

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PUBLISHER'S NEWS LETTER

In the newspapers of June 6, there appeared in a group with typical headlines the story of eleven surprise deaths that occurred on the day before. Calls came from England and Japan and a telegraphic despatch from Kelly and Powers brought the news of the deaths of officers and soldiers in many wrecks. The public has had of as many accidents to military and naval aircraft that leads to the conclusion that all aircraft are unsafe. Ignoring the daily shortcomings of our air mail and the commercial lines all over the world. This is the sort of news article that everyone interested in aviation despises, but there is another side to it which may be interesting.

* * *

The "Headline and Blarney" column continues to seem a necessity. And almost unanimous expression of approval of some of the recent editorial opinions, as published in AVIATION, have caused a letter from the chairman of the headquarters of the National Aviators' Association in Washington. Among the other bits of news is contained were the following:

"I can only look on AVIATION as the most unique obstacle in our work."
"I can only regard it as an enemy of the N.A.A."

"Such an editorial attitude, if it has any influence whatever, is calculated not to add to the membership of the N.A.A., but to drive members out of the Association."

"The critics of the N.A.A. are devoted to a policy of destruction. They hold not at all.

This letter by an anonymous engineer, for whom I advance completely the opinions that would be too tedious to repeat, and greatest and deepest concern of the Association:

"The little crits are our best friends, and we find they are the most futile yet. The big crits think they 'know it all.' They do little and say little in our support, their attitude is rather one of antagonism and superiority, the kind of superiority which I do not recognize as being justified by the facts."

Of course, such an unwarped attack on the oldest American aeronautical paper deserves, and is receiving, a most exhaustive reply to the Board of Governors. We shall not cross out of our small paper more interesting news to make this apply to our criticism, but if any of our readers would like to copy and send us the reply, it will be sent with the larger sheet our critics which have been characterized as those of a "disgusted society" will no longer be unapologetic nor further "disgusted." It is a brief history of the N.A.A. to date. Copies on request.

So that AVIATION might have the benefit of the opinion of one of the officers of the N.A.A. who is not attached to the Dayton group, the opinion of the Treasurer was asked. His words:

"I have read all the copies of AVIATION which you have sent me and I cannot find anything in any of them to which any reasonable man can take exception whether he be a member of the N.A.A. or an outsider."

"Thank you for doing splendid work and hope that you will be able to receive a wider and greater reward in which your long years of hard laboring will be paid."

Our readers can take their choice of opinions.—L. D.G.

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